

AMENDMENTS TO THE CLAIMS

1-7. (Cancelled)

8. (Currently Amended) A moving picture decoding method for decoding, on a picture-by-picture basis, a coded stream comprising: coded picture data for each picture included in the coded stream; display order information for each picture included in the coded stream, where the display order information for each picture is a picture order count (POC) and has a value indicating the display order of the respective pictures; and a flag inserted into the coded stream so as to indicate a position among the coded picture data where the values of the display order information of the pictures in the coded stream are sequential or non-sequential, where being sequential is being incremental by one and being non-sequential is a state other than being incremental by one, the flag being stored in the coded stream or in random access point information in a file system to convey the coded stream, the method comprising:

an information extraction step of extracting the flag indicating a position among the coded picture data where the values of the display order information are non-sequential; and

a management step of managing a storage memory area for storing a decoded picture based on the flag, wherein

in the management step, clip information is given to the decoded picture stored in the storage memory area, said clip information being updated when the flag is extracted, and a picture whose position is earliest in a display order among the decoded pictures stored in the storage memory area is determined as a picture to be removed, based on the display order information and the clip information.

9. (Cancelled)

10. (Cancelled)

11. (Previously Presented) The moving picture decoding method according to Claim 8, further comprising an invalid picture storage step of storing an invalid picture in the storage memory area when the values of the display order information are non-sequential,

wherein in the management step, whether or not to store an invalid picture in the area is determined based on the flag and the display order information, and

in the invalid picture storage step, an invalid picture is stored in the storage memory area based on a result of the determination made in the management step.

12. (Cancelled)

13. (Currently Amended) A moving picture decoding apparatus for decoding, on a picture-by-picture basis, a coded stream comprising: coded picture data for each picture included in the coded stream; display order information for each picture included in the coded stream, where the display order information for each picture is a picture order count (POC) and has a value indicating the display order of the respective pictures; and a flag inserted into the coded stream so as to indicate a position among the coded picture data where the values of the display order information of the pictures in the coded stream are sequential or non-sequential, where being sequential is being incremental by one and being non-sequential is a state other than being incremental by one, the flag being stored in the coded stream or in random access point information in a file system to convey the coded stream, the apparatus comprising:

an information extraction unit operable to extract the flag indicating a position among the coded picture data where the values of the display order information of the pictures are non-sequential; and

a management unit operable to manage a storage memory area for storing a decoded picture based on the flag, wherein

in the management unit, clip information is given to the decoded picture stored in the storage memory area, said clip information being updated when the flag is extracted, and a picture whose position is earliest in a display order among the decoded pictures stored in the storage memory area is determined as a picture to be removed, based on the display order information and the clip information.

14. (Cancelled)

15. (Currently Amended) A computer readable recording medium encoded with a

computer program for decoding, on a picture-by-picture basis, a coded stream comprising: coded picture data for each picture included in the coded stream; display order information for each picture included in the coded stream, where the display order information for each picture is a picture order count (POC) and has a value indicating the display order of the respective pictures; and a flag inserted into the coded stream so as to indicate a position among the coded picture data where the values of the display order information of the pictures in the coded stream are sequential or non-sequential, where being sequential is being incremental by one and being non-sequential is a state other than being incremental by one, the flag being stored in the coded stream or in random access point information in a file system to convey the coded stream, the program causing a computer to execute at least:

an information extraction step of extracting the flag indicating a position among the coded picture data where the values of the display order information ~~values~~ of the pictures are non-sequential; and

a management step of managing a storage memory area for storing a decoded picture based on the flag, wherein

in the management step, clip information is given to the decoded picture stored in the storage memory area, said clip information being updated when the flag is extracted, and a picture whose position is earliest in a display order among the decoded pictures stored in the storage memory area is determined as a picture to be removed, based on the display order information and the clip information.

16-17. (Cancelled)

18. (New) A moving picture coding method for coding an inputted coded moving picture signal on a picture-by-picture basis and generating a coded stream,

wherein the inputted coded moving picture signal includes coded picture data for each picture, and display order information for each picture, where the display order information for each picture is a picture order count (POC) and has a value indicating the display order of the respective pictures, the moving picture coding method comprising:

a detecting step of detecting whether the values of the display order information for the pictures to be included in the generated coded stream are sequential or non-sequential, where

being sequential is being incremental by one and being non-sequential is a state other than being incremental by one;

a flag information generation step of generating a flag indicating that the values of the display order information are non-sequential, when said detecting step detects that the values of the display order information for the pictures to be included in the generated coded stream are non-sequential; and

a coded stream generating step of (1) generating a coded stream comprising: the coded picture data for each picture to be included in the generated coded stream; and the flag inserted into the coded stream so as to indicate a position among the coded picture data where the display order of the pictures is non-sequential, or (2) generating a coded stream comprising: a predetermined coding unit and a further coding unit such that the predetermined coding unit comprises a plurality of picture data of respective pictures to be included in the generated coded stream, including a first intra picture and such that the further coding unit is located after the predetermined coding unit and comprises picture data of a picture whose display order is later than a display order of the first intra picture among the pictures included in the predetermined coding unit; and the flag is inserted in the coded stream so as to indicate a position among the coded picture data where the display order of the pictures is non-sequential, wherein

in the coded stream generating step, the flag is inserted between two pictures in the generated coded stream, said two pictures being non-sequential in display order.

19. (New) The moving picture coding method according to Claim 18,

wherein in the coded stream generating step, the coded stream is generated such that a display order of pictures in the predetermined coding unit is sequential, and such that the display order of the pictures in said predetermined coding unit is located earlier than a display order of pictures in a predetermined coding unit immediately following said predetermined coding unit.

20. (New) A moving picture coding apparatus for coding an inputted coded moving picture signal on a picture-by-picture basis and generating a coded stream,

wherein the inputted coded moving picture signal includes coded picture data for each picture, and display order information for each picture, where the display order information for each picture is a picture order count (POC) and has a value indicating the display order of the

respective pictures, the apparatus comprising:

a detecting unit operable to detect whether the values of the display order information for the pictures to be included in the generated coded stream are sequential or non-sequential, where being sequential is being incremental by one and being non-sequential is a state other than being incremental by one;

a flag information generation unit operable to generate a flag indicating that the values of the display order information are non-sequential when said detecting unit detects that the values of the display order information for the pictures to be included in the generated coded stream are non-sequential; and

a coded stream generating unit operable to (1) generate a coded stream comprising: the coded picture data for each picture to be included in the generated coded stream; and the flag inserted into the coded stream so as to indicate a position among the coded picture data where the display order of the pictures is non-sequential, or (2) generating a coded stream comprising: a predetermined coding unit and a further coding unit such that the predetermined coding unit comprises a plurality of picture data of respective pictures to be included in the generated coded stream, including a first intra picture and such that the further coding unit is located after the predetermined coding unit and comprises picture data of a picture whose display order is later than a display order of the first intra picture among the pictures included in the predetermined coding unit; and the flag inserted the coded stream so as to indicate a position among the coded picture data where the display order of the pictures is non-sequential, wherein

in the coded stream generating unit, the flag is inserted between two pictures in the generated coded stream, said two pictures being non-sequential in display order.

21. (New) A computer readable recording medium encoded with a computer program for coding an inputted original coded moving picture signal on a picture-by-picture basis and generating a coded stream, wherein the inputted original coded moving picture signal includes coded picture data for each picture, and display order information for each picture, where the display order information for each picture is a picture order count (POC) and has a value indicating the display order of the respective pictures, the program causing a computer to execute at least:

a detecting step of detecting whether the values of the display order information for the

pictures to be included in the generated coded stream are sequential or non-sequential, where being sequential is being incremental by one and being non-sequential is a state other than being incremental by one;

a flag information generation step of generating a flag indicating that the values of the display order information are non-sequential when said detecting step detects that the values of the display order information for the pictures to be included in the generated coded stream are non-sequential; and

a coded stream generating step of (1) generating a coded stream comprising: the coded picture data for each picture to be included in the generated coded stream; and the flag inserted into the coded stream so as to indicate a position among the coded picture data where the display order of the pictures is non-sequential, or (2) generating a coded stream comprising: a predetermined coding unit and a further coding unit such that the predetermined coding unit comprises a plurality of picture data of respective pictures to be included in the generated coded stream, including a first intra picture and such that the further coding unit is located after the predetermined coding unit and comprises picture data of a picture whose display order is later than a display order of the first intra picture among the pictures included in the predetermined coding unit; and the flag inserted the coded stream so as to indicate a position among the coded picture data where the display order of the pictures is non-sequential, wherein

in the coded stream generating step, the flag is inserted between two pictures in the generated coded stream, said two pictures being non-sequential in display order.

22. (New) The moving picture coding method according to Claim 18, wherein the flag is stored in supplemental enhancement information (SEI) for storing additional information, the SEI being located between clips in the generated coded stream.